ALO--WWID-WIPP-1998-0002 Final Report

Occurrence Report

Waste Isolation Pilot Plant

(Name of Facility)

Nuclear Waste Operations/Disposal

(Facility Function)

Carlsbad Area Office Westinghouse Waste Isolation Div.

(Laboratory, Site, or Organization)

Name: xxxxxxxxxx
Title: FACILITY MANAGER DESIGNEE **Telephone No.:** (505) xxxxxxx

(Facility Manager/Designee)

Name: xxxxxxxxxx
Title: LMA COORDINATOR **Telephone No.:** (505) xxxxxxx

(Originator/Transmitter)

Name: **Date:**

(Authorized Classifier (AC))

1. Occurrence Report Number: ALO--WWID-WIPP-1998-0002

LOAD SHIFT ON HOIST

2. Report Type and Date: Final

	Date	Time
Notification:	03/02/1998	15:37 (MTZ)
Initial Update:	03/25/1998	13:10 (MTZ)
Latest Update:	03/25/1998	13:10 (MTZ)
Final:	03/27/1998	10:29 (MTZ)

3. Occurrence Category: Off-Normal

4. Number of Occurrences: 1 **Original OR:**

5. Division or Project: WID/WIPP

6. Secretarial Office: EM - Environmental Management

7. System, Bldg., or Equipment: WASTE HOIST CONVEYANCE CART

8. UCNI?: No

9. Plant Area: WASTE HOIST

10. Date and Time Discovered: 02/27/1998 11:10 (MTZ)

11. Date and Time Categorized: 02/27/1998 13:00 (MTZ)

12. DOE Notification:

Date	Time	Person Notified	Organization
02/27/1998	11:30 (MTZ)	xxxxxxxxxx	CAO-FR

13. Other Notifications:

14. Subject or Title of Occurrence:

LOAD SHIFT ON HOIST

15. Nature of Occurrence:

10) Cross-Category Items
C. Potential Concerns/Issues

16. Description of Occurrence:

On Friday, February 27 at approximately 1110, a load shift caused waste hoist operations to be suspended. The conveyance cart loaded with six 55-gallon drums of exhaust shaft sump brine water was started to the surface using the waste hoist. At approximately 500 feet up the shaft from the bottom, the top lander (equipment operator at the top of the waste hoist shaft) initiated an emergency stop of the hoist when he was notified by the bottom lander and noted unusual motion in the hoist cables. The bottom lander noted minor salt debris falling down the shaft.

17. Operating Conditions of Facility at Time of Occurrence:

OPERATING WASTE HOIST TO CONVEY MATERIAL FROM UNDERGROUND TO SURFACE

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18. Activity Category:

03 - Normal Operations

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19. Immediate Actions Taken and Results:

The emergency stop feature was initiated for the hoist.
Investigation of cause was begun.

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20. Direct Cause:

3) Personnel Error
A. Inattention to Detail

21. Contributing Cause(s):

2) Procedure Problem
B. Lack of Procedure

5) Training Deficiency
C. Inadequate Content

22. Root Cause:

3) Personnel Error
A. Inattention to Detail

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23. Description of Cause:

The involved operator stated he forgot to lock the flatcar to the conveyance using the installed locking mechanism. This operator is experienced in the required process, having properly performed the task numerous times over the recent years. He further stated that he was not distracted or subjected to undue time pressure related to loading the flatcar. As a direct result of the flatcar not being locked into place, it was free to roll on its tracks and did so, protruding over the edge of the conveyance and striking the sides of the shaft during the ascent.

The root cause analysis also noted that the training operators

receive regarding use of the flatcar on the conveyance appears to be verbal, and part of on-the-job-training (OJT). The qualification guide and qualification card for this watchstation (bottom-lander) do not specifically address the locking mechanism for the flatcar. The existing procedure related to waste hoist operations does not include a section which particularly address use of the flatcar.

Further noted was the absence on any physical reminder such as Operator Aids or checklists which address the issue of locking the flatcar in place.

This flatcar has been used in the same manner for a number of years and its use was viewed as a routine evolution. The locking mechanism is extremely simple: the mechanical arm attached to the conveyance is lined up with the tab attached to the flatcar and a pin dropped in the holes to secure the flatcar in place.

Corrective actions to address these causes are listed in section 26 of this report.

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24. Evaluation (by Facility Manager/Designee):

After discussions with appropriate personnel, a plan of action was developed and initiated to determine the cause of the unusual indications. The hoist was slowly lowered to the vicinity of the underground station so a visual inspection could be made. This inspection revealed the cart to be extended over the edge of the hoist equipment platform, apparently allowing the cart to come into contact with the shaft as the hoist was moving upward. (Note: the conveyance cart is a robustly constructed cart used to transfer general cargo on the load deck of the waste hoist. It is rail mounted, approximately 12 feet in length, and can be compared to a small version of a standard railroad flat-car in general appearance and function. This cart is moved on and off the waste hoist at the top and bottom of the shaft as necessary to handle general cargo. This cart is not part of the TRU waste handling system.)

Subsequently, a recovery plan was developed and executed. A recovery crew entered the cage, secured the car and the barrels in a safe position, and lowered the hoist to the bottom station. The car and drums were removed.

No significant damage was noted to the cage, the hoist, the shaft, or other equipment. The hoist has been returned to

service. As a condition of this return to service, the conveyance cart will not be used to transfer materials until further investigation into the cause is complete and any necessary corrective actions have been identified. Alternate means of transferring general cargos between the surface and underground are available using the salt shaft, and this restriction presents no impact to plant operations. Materials transfer using the salt shaft does not involve use of the cart. The Plant Management Team will determine when unrestricted use of the cart may resume. This determination is expected to be made within 10 days.

UPDATE 3/24/98: Unrestricted use of the cart will resume after completion of changes to procedures and qualification program documents and all operators have been trained on those changes as noted in section 26 of this report.

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25. Is Further Evaluation Required?: No

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26. Corrective Actions

(* = Date added/revised since final report was approved.)

1. Conduct an evaluation of qualification guides, qualification cards, and operating procedures to determine required changes.

Target Completion Date: 03/20/1998	**Completion Date:** 03/19/1998

2. Initiate required changes to qualification documents and operating procedures.

Target Completion Date: 03/25/1998	***Completion Date:** 04/01/1998

3. Post appropriate operator aids and train all Hoisting Operations personnel on the qualification / training / operating procedures changes which result from corrective actions items 1 and 2.

Target Completion Date: 04/30/1998	***Completion Date:** 04/07/1998

4. Conduct a documented safety briefing for all Hoisting Operations personnel. The briefing will discuss this event, solicit recommendations for corrective actions, and discuss the lessons learned.

Target Completion Date: 03/10/1998	**Completion Date:** 03/10/1998

5. The Engineering Department will evaluate possible engineered enhancements to make the cart easier to position and lock into place on the waste conveyance.

***Target Completion Date:** 06/19/1998	***Completion Date:** 06/16/1998

Target Completion Date: 06/19/1998	**Completion Date:** 06/16/1998

27. Impact on Environment, Safety and Health:

None

28. Programmatic Impact:

None

29. Impact on Codes and Standards:

None

30. Lessons Learned:

It is not only the new and inexperienced employee who may make a work error, but a worker with years of experience can make a mistake in performing a simple, routine task. Within even simple tasks there may be a step which, if not properly executed, can have serious consequences. No matter how routine the task, the worker must give adequate attention to each step of the process to ensure the task is properly completed.

An important aspect of the supervisor's job is to ensure that not only newly qualified employees are properly supervised, but that the worker with years of experience is periodically observed in routine tasks to ensure that a conscientious and deliberate approach to the job is the norm.

Conduct of Operations is a concept which must be continually emphasized and applied to every job in order to minimize the chance for human error.

31. Similar Occurrence Report Numbers:

1. None

32. User-defined Field #1:

33. User-defined Field #2:

34. DOE Facility Representative Input:

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35. DOE Program Manager Input:

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36. Approvals:

Approved by: xxxxxxxxxx , Facility Manager/Designee
Date: 03/25/1998
Telephone No.: (505) xxxxxxx

Approved by: xxxxxxxxxx, Facility Representative/Designee
Date: 03/27/1998
Telephone No.: **(505) xxxxxxx**

Approved by: Approval delegated to FR
Date: 03/27/1998
Telephone No.:
